

Summer 2026 CHEM 2312 Syllabus

CHEM 2312 – Organic Chemistry II – 3 Credit Hours

May 18th, 2026 to July 22nd, 2026

Final Exam is TBD

Meeting times are TR 9:30 am – 11:40 am in Boggs B9

Instructor Contact Information

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Office hours are Tuesday 1 – 2 pm and Thursday 8 - 9 am in Boggs/LDL 104B. Contact me for additional meetings. I can also meet you virtually at other times if you ask.

GTA: TBD

Course Description

Delve deeper into the intricate world of carbon-based compounds, building upon the foundational concepts introduced in Organic Chemistry I. This advanced course explores the synthesis, reactivity, and mechanisms of organic molecules, with a focus on functional group transformations, stereochemistry, spectroscopic methods, and multi-step synthesis strategies. Students will develop a comprehensive understanding of organic reactions, molecular structure elucidation, and the interplay between theory and experimentation in modern organic chemistry.

Course Prerequisite/ Credit Hours

Undergraduate Semester level CHEM 2311 Minimum Grade of D

Course Materials/Requirements

Required text: *None*. But the Klein book you used for Organic Chemistry 1 can be incredibly helpful.

Required homework: WileyPlus is the system we will use for weekly homework assignments.

- **Access to a computer** (Windows: 10, 8, 7 • Mac: MacOS X 10.10 or higher) **with reliable, broadband internet connection**, If you cannot get a computer and reliable internet, you can use the ones on reserve in the library.

Course Requirements:

Assessment	Description	Value
Final Exam	In-Person Final Exam	20%
Homework	Weekly Online Homework Using WileyPlus	10%
Daily Quizzes	Every day you will have a quiz based on the pre-class reading and videos	10%
Section Exams	Four Section Exams @ 15%	60%
Total		100%

100%>A>89%, 90%>B>79%, 80%>C>69%, 70%>D>59%, F<=60

- **Withdraw:**

June 28th is the last day to withdraw from a single course or from school with W grades for Summer Semester by 4:00 PM Eastern Time. Students must withdraw from all classes in order to receive a refund. Deadline to change grade mode from Letter/Grade to Pass/Fail (and vice versa). No changes to or from audit mode permitted after the last day of registration.

Final Exam – This comprehensive exam will be administered during the Final Exam Schedule based on your class time. The exam is expansive includes topics from previous chemistry courses and those covered in this course. Final exam must be taken in person.

Homework – Homework will be assigned almost every week and is due through the WileyPlus system on the assigned date and time. If you submit your homework late, even by 15 seconds, you will be assessed a late penalty of 10% off per day. After 2 days, you will not receive any credit.

Daily Quizzes – Quizzes will be given at the beginning of each class based on pre-class assignments and answered using Microsoft Forms. They will be short, straightforward, and likely be completed within 2 or 3 minutes. They are simply meant to ensure that you are doing the pre-class assignments, as this is integral to your success in the class. There are **NO** make-up quizzes, and I will drop **Two** of the lowest quiz grades each semester.

Section Exams – Exams will be given during regular class periods. If you have a legitimate, documented reason for missing an exam you should notify me in advance to arrange a make-up. If you cannot give me advance notice, you should notify me within 24 hours of missing the exam to arrange a make-up. Students who cannot provide what I consider to be a valid reason and proper documentation will receive zeroes for all missed exams. Exams may include material from the class, homework, pre-class assignments, textbook, and quizzes.

Course Learning Objectives:

Understand and apply the mechanisms underlying a wide range of organic reactions. Identify, classify, and predict the behavior of various functional groups in organic molecules, including carbonyl compounds, amines, and aromatic systems. Grasp the principles of stereochemistry and apply them to analyze and predict the stereochemical outcomes of organic reactions, including stereoselectivity and stereospecificity. Interpret data from various spectroscopic techniques (such as IR, NMR, and UV-Vis spectroscopy) to determine molecular structure, connectivity, and functional groups. Design and execute multi-step synthesis routes to construct complex organic molecules, incorporating principles of retrosynthetic analysis, functional group interconversion, and selectivity. Apply critical thinking and problem-solving skills

to solve challenging problems in organic chemistry, including reaction mechanisms, synthesis strategies, and spectroscopic analysis. Explore the relevance of organic chemistry in biological systems, drug discovery, materials science, and other interdisciplinary fields, and appreciate the impact of organic chemistry on society and technology.

Formats and Procedures:

This course may proceed differently than any you've ever taken or might ever take again. We will use a variety of pedagogical techniques, which I believe have been incorporated to facilitate both your chemistry knowledge and development as students and human beings. I will ask you to work in groups, participate in discussion, learn material before coming to class, and really grapple with the material on your own. Almost every class will rely on your participation, with very little traditional lecturing by me. Rather than always relying on me to stand at the front of the class and throw words and pictures at you, you will have to work actively to develop the skills necessary to succeed in this course.

Before coming to each class, you will be expected to have done some pre-class activity, such as watching a video, reading material I assign, or working on problems beforehand. Once class begins and I have assessed your pre-class effort (via short quests described above), we will work together to reinforce important concepts or clear up misconceptions about the learning material. Afterwards, homework will be assigned to continue to reinforce your learning until you have developed a mastery of our topics.

Course Policies

Attendance:

Although formal attendance will not be taken in class, students are expected to attend class. Since most of the material covered on the exams will be discussed in class, attendance will work to the student's advantage. Additionally, short Quests based on pre-class assignments given at the beginning of every class cannot be made up or taken late. I know that emergencies happen so I will gladly drop the 2 lowest pre-class Quest grades each semester to account for this. If you want to travel, I hope you have a blast. But I will not excuse absences for travel outside of school-sanctioned events. Your family's summer trip still does not count. I do not record lectures and you cannot attend virtually.

Academic Integrity:

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

- **disAbility:**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

- **Student-Faculty Expectations Agreement:**

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

- **Changes:**

The policies in this syllabus may change due to unforeseen circumstances. Any changes to the syllabus will be given in writing in-class and posted on the course website.

- **Life Happens Clause:**

*Life is complex and life happens. For one assignment this semester, you can tell me that you're invoking the "Life Happens" clause and receive a 48-hour extension of any **homework** assignment. You don't have to tell me any of your personal business, explain, or apologize. Life happens and if you need to use it, use it. Just let me know in a timely manner.*

Course Calendar*

*Class dates for topics are tentative and may change without notice. However, any change in Exam dates will be announced and posted on canvas prior to the Exam date.

Final Exam - Please check the final exam schedule at the registrar's website

Date	Section/Topic
19-May	Intro + Review
21-May	Review + Dienes
26-May	Pericyclic Reactions
28-May	Aromatic, Benzyl, Heteroaromatic
2-Jun	Aromatic Subs + Directing Groups
4-Jun	Review + Exam 1
9-Jun	Amines, Amine Synthesis
11-Jun	Diazoniums, Ketones, and Aldehydes
16-Jun	Imines, Wittig, Sulfur
18-Jun	Review + Exam 2
23-Jun	Carboxylic acids + Derivatives
25-Jun	Carboxylic Acid Derivative Reactions
30-Jun	Enol-Enolate
7-Jul	Organometallics + Cross Coupling
9-Jul	Review + Exam 3
14-Jul	Polymers
16-Jul	Amino Acids and Peptides
21-Jul	Multistep Synthesis
23-Jul	Review + Exam 4
28-Jul	Final Exam Review